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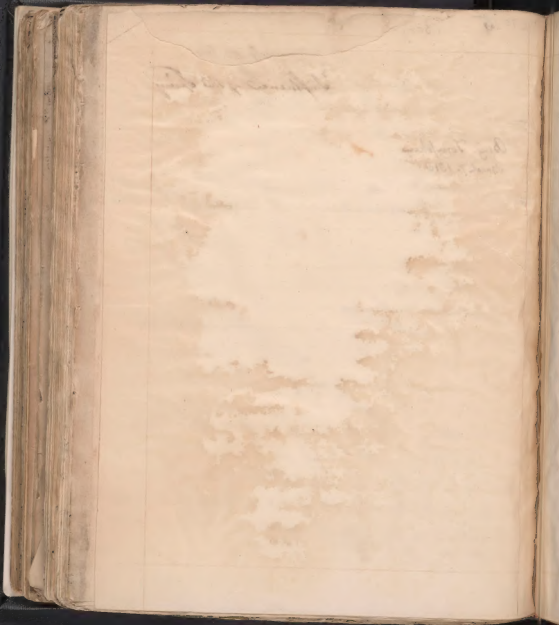
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Influence of the Spring

Benj. Tompkins
March 7. 1818

Influence of Spring



An Enquiry

Into the Influence of Spring upon the Human Body

In the Production of Disease,

Submitted to the Examination of the Provost, Trustees and

Medical Professors in the University of Pennsylvania

For the degree of Doctor of Medicine.

1791

Let the influence of the human mind

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An Enquiry, &c.

All writers who have enriched the science of medicine, even from the earliest times down to the present age, have remarked that the seasons very powerfully influence the diseases of man. Notwithstanding the fact has been so long obvious, yet an acquaintance with many of the causes which produce it, has never been obtained. Nor do I expect to shed much light on the subject, for it is more than probable, that all which I shall write has been known long since.

It seems to me, that the direct and indirect causes of many of the diseases with which man is afflicted in the various seasons, are to be sought for in the different positions of the earth towards the sun, which we know exercises an immense power, not only on every plant and animal, but even on all those beings which are devoid of life.

A very strong reason for entertaining this opinion is obtained from the state of man in the different climates, where not only his complexion, but even the very basis of his fabric is so modified, as to make him a being differing so much in appearance and shape, that many philosophers have entertained the antient opinion, that Adam was not the sole

the first of the month of January 1841
I received from you a letter of the 27th
and was glad to hear from you
and to hear that you were well
and that you were still in the
land of the living. I am well
and hope these few lines will find
you the same. I have not much news
to write at present. I am still
in the same place and doing the
same work. I hope to be able to
write to you more often in the
future. I am, dear friend, ever
your affectionate friend,
Wm. Lloyd Garrison

progenitor of the human race. For what two beings of the same species present such opposite appearances, as the Samoid Tartar or wretched Esquimaux who inhabits the polar regions, compared with the European or American who dwells in the temperate zone. The diseases which prevail in the different climates vary just as much in their nature and proportion as the inhabitants of those climates do in their shape and appearances. For so we are informed by Hippocrates in his book on Air, Water and Situation. And one would be led to this conclusion from the consideration, that the same causes which could operate so powerfully in changing the whole physical man, would also render him liable to peculiar diseases.

That circumstances connected with an increase or decrease of the power which the sun exercises on the various regions of the earth's surface, constitute the great cause which operates in the production of all the astonishing varieties in the form, temper and also diseases of the human species, must be admitted by every philosopher who will rightly consider the subject. The immense solar heat of the Equatorial Regions causes the whole system of created beings in those parts, to present very opposite appearances to what takes place in the Polar Regions, where the sun exerts his power only for half the year, and then in a very oblique and inefficient manner. It is not only to the direct

influence of the quantum of the sun's beams, that we are to attribute the changes which man undergoes in different situations on the earth, but also to their indirect influence operating through the medium of customs, as it regards modes of living, dress and other habits.

All the nations who inhabit the various regions of the globe, receive different proportions of the influence of the sun, so do we as our seasons vary, and the sun changes his energy with regard to us, according to our particular situation on the earth yet notwithstanding I think it sufficiently manifest, that the seasons influence us on the same principle, that the climate influences their inhabitants. On this point, Doctor Huxham thus expresses himself: "If the various temperatures of the air in different climates produce diseases altogether different; why should not different tempers of the air, even in the same country, produce also different affections of the body? And so indeed they do." And the same author goes on to observe, that what Celsus says of Difference of places is equally true of Difference of Seasons. *Differre tempe pro Natura Locorum genera Medicinæ, et aliud opus est hominibus aliud in Egypto, aliud in Gallia.* Huxham's Works, Vol. I. Page 11.

The regular succession of the seasons is produced by the annual circuit of the earth around the sun, during which our position towards that immense body is constantly changing, so that in Spring we receive a greater portion



of Hippocrates, which was not stated before. . . .
"The seasons and changes of the seasons
in the course of Strong summer and winter
in autumn brings on a return of
epidemic affections and winter abounds in inflammations
of the lungs and other parts". Hippocrates has
also said "The birth and diseases of man are
under the influence of the seasons, and that
according to their nature as is the opinion". Indeed
though I do not see the writings of this very ancient
celebrated physician, we find that he attributes
the production of most all acute diseases to the
influence of those which the constitutions of the
body are affected by over the body of man.

In commencing my enquiry into the influence
of Strong on man in the production of disease, I
found by a review of the writings of Hippocrates
that he has not only shown a knowledge of the nature
of the diseases which affect a human frame,
but has also attributed to the seasons the influence
which is now ascribed to the seasons. He has
shown a knowledge of the nature of the diseases
which are produced by the seasons, and he has
shown that the seasons have a great influence
on the nature of the diseases.



advantages of a long and faithful experience, have been
unable to penetrate into the mystery of many of the
causes of disease, we must conclude that they are
hidden in the utmost recesses of secrecy, where like
many other things, they completely elude mortal
research. The dark envelopment of this subject, is surely
the cause of many imperfections in the healing art.
So, from a knowledge of the deleterious causes which operate
on the human body and from their nature produce disease
we can be led to that system of prophylaxis which
is founded on principle and founded on reason.

In the prosecution of the present subject, I shall not attempt
an investigation of the nature of those vernal epidemics
or contagious diseases, with regard to the origin of which
the history of medicine furnishes no information, but confine
my attention to certain diseases, which seem to arise
to arise from the general nature of the Spring season and
particularly to such as are called into existence by the action
of warm heat and by sudden vicissitudes in the man-
ifest state of the atmosphere. There are also some
diseases of the chronic order as Phthisis Pulmonalis,
Scrophulous, whose course is materially influenced
by the season. These I now endeavour to write
something about.



200. I have entered on particulars on these heads. I now
propose to make a few observations on a certain practical
logic, in order that a more subsequent, not enter
into the consideration of my remarks.

In approaching the study of diseases, we cast our
eyes so much towards the anatomy & physiology.
An acquaintance with the structure of the human body,
with all its muscles, with all its great operations including
particularly the processes which must go on unintercepted
in order that we may have health, will do more
towards, incline out the nature of complaints, than all
the most subtle talents for reasoning.

That the body of man may be ^{supported} perfectly, it
is not as necessary that its excretories should be drained off
as that the action of the general mass of the fluids, which does
not contribute to the health constitution of the solids, as
well as the secretion of the decomposition of the solids, should
be regulated as it is, that the nutritious portion of our
aliments should be retained and under
regulation. What we receive into our body, or
our nourishment, consists of secretions which are
not to be met with in a simulating powers have
been directed to the system what is necessary for the
health constitution the system is thrown out of the body
the muscular system is not so much what it

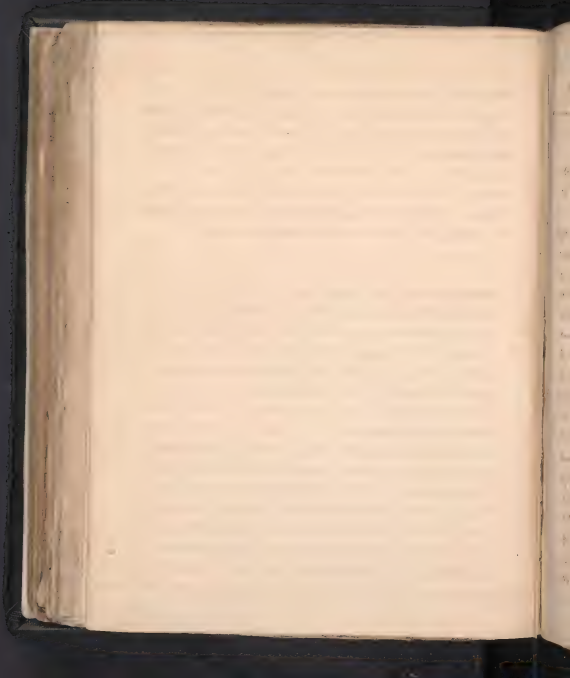


those parts of the body which are constantly yielding to external action. Hence are constituted the two grand divisions of organic life, and in the proper and harmonious action of these two important sets of functions, health when not assailed by external powers is found to consist. The assimilating functions of the assimilation process are our bodies supplied with the materials of their existence, and the functions of the excretoria are the excretions which would have accumulated in the system and interfered with the movements, health completely removed from the system of nature.

the skin, the lungs, and the kidneys carry off
the stimulating powers have refused and what it
could so as means to retain part of the nature
the body then is determined over it, requires
a course of ice by giving support to the system

Concerning my attention to the circumstances of the 1st of
- go on to state, that whenever there do not exist the
officer - other view of the course of the last's action - a line

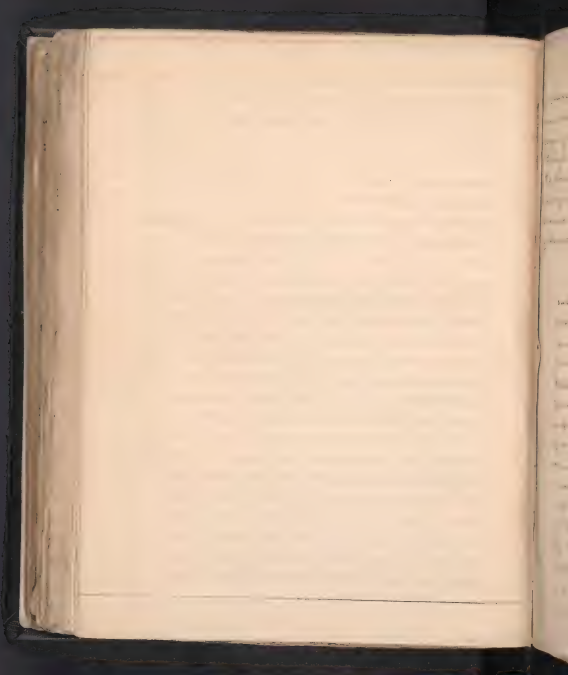




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Cedrus deodora Turkestan & Himalayas. India.

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influence which the seasons, and different states of the weather and also certain states of the animal economy, have on directing a greater or less quantity of the excretions and waste matter through those channels which conduct out of the body. And in the present state of things when man is surrounded by so many external enemies, it is absolutely necessary that such should be a law of his constitution in order that a state of health and even of existence might be preserved.

substances which once formed a part of it and which by the decomposition process have come to be animalised and become organic matter. Retained animal excretions, it has been shown, are capable of producing the greatest morbid derangements. The most important organs are lodged securely in the centre of the body, and consequently are not subject to be immediately exposed to the action of the external world. The most dangerous of these are the lungs, the liver, the stomach, and the intestines, which are situated in the most secure and most protected parts of the body. The most dangerous of these are the lungs, the liver, the stomach, and the intestines, which are situated in the most secure and most protected parts of the body. The most dangerous of these are the lungs, the liver, the stomach, and the intestines, which are situated in the most secure and most protected parts of the body.





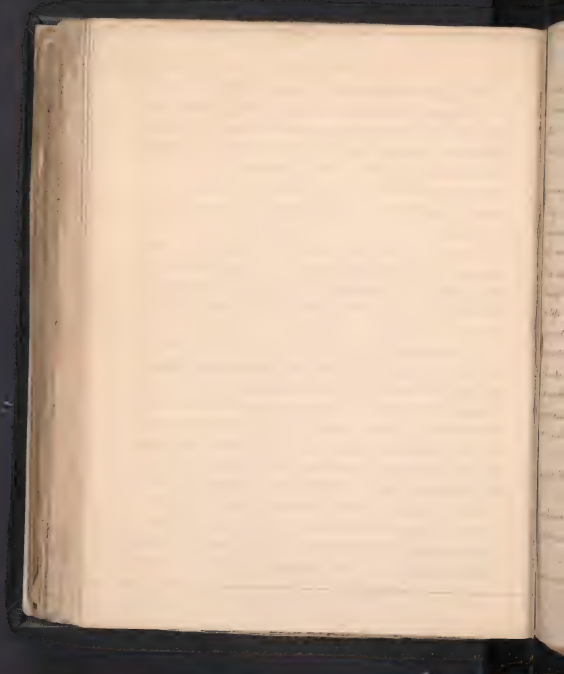


constitution of the atmosphere in any other manner in which the other excretories, according to the common state of the system, can in a greater or less degree act for that purpose, it is evident that it would seem that in any state of things which would necessitate excretion on the cutaneous organ this excretory system and accessory canal would be peculiarly liable to disease, in consequence of some one or more of them having to make an exit to the skin. It is not however evident that when the *materia prosopinalis* (which accumulates in the system of Sanctorius) is very great in quantity as well as various in quality cannot pass through the pores of the skin unobstructed by any other substance, that an effort will be made by the system to throw it out by the other excretories. This statement is not entirely correct, the majority of the excretory portions of the system are not so constructed as to be able to get rid of their contents by excretion on the skin. Perhaps the only excretory system which is able to do so is the cutaneous, but the excretory system is not in this position, and the excretory system is not in this position, and the excretory system is not in this position, and the excretory system is not in this position.

The my present purpose the doctrine which I wish to

consideration will be to point out the reasons for the doctrine.







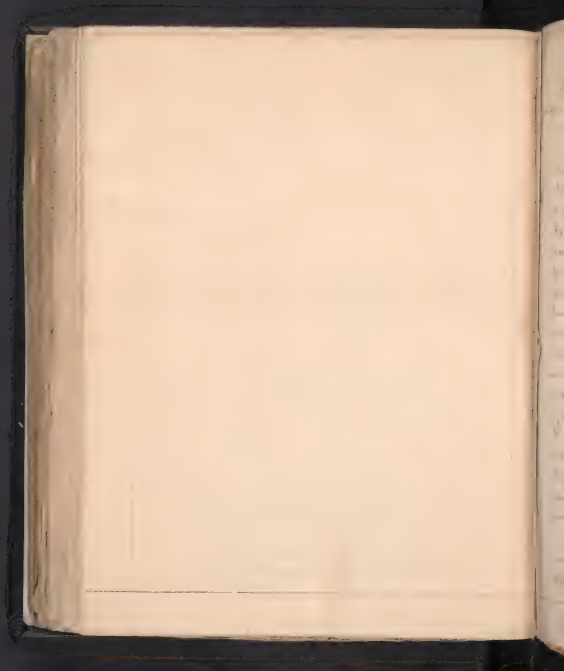


into a living mass. The larger vessels of the pulmonary tree
 exhibiting communications on the internal surface, which communicate
 the course of each vessel to the exterior by an anastomosing
 branch, whence penetrating the pulley of a second living vessel, it
 is carried to the heart. It has been observed however, that the
 pulmonary vessels would be so connected, that the
 blood in the heart purifies the blood in the lungs, and the blood
 in the lungs purifies the blood in the heart.

CHAP. IV. OF THE LUNGS.

The lungs are situated in the chest, and are the most important
 organs of the human system. They are situated in the chest, and are
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Of the structure of the lungs, after the dissection of the human
 body, it is found that the lungs are situated in the chest, and are
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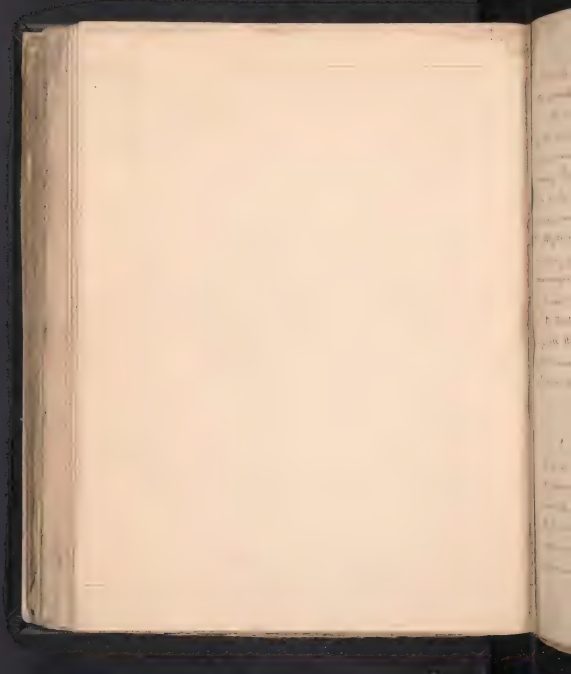
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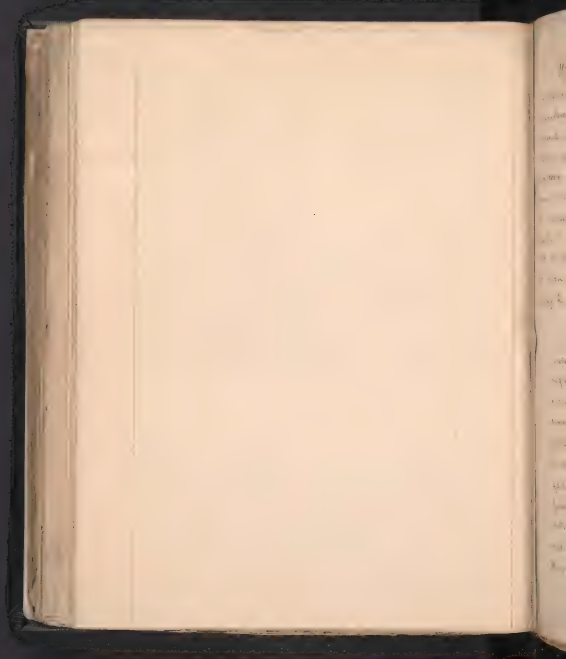


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The Commission has also been very busy with its work on the future of the European Union.

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Upon a consideration of the especial necessity of keeping
up the action of the cutaneous organ and of innumerable acute
diseases not only of the extremities but of the whole system
which result from its stoppage, Sydenham who looked
into the nature of diseases thus expressed himself
indeed I am of opinion that abundance more have
been destroyed by these means (viz by exposures to cold sudden
in a sedentary habit than by the direct fire in cold, agues.
The many internal causes of the puerile putrid effluvia
in a night or a week & when a season has left off his clothes
soon on 2. impudently exposed his body to the cold after
being heated by violent exercise, whence the pores being suddenly

expanding & discharging of what was contained there the pores were
refused in that manner not such that the action the influence
of natural activity is dissipated by means which tend to alter, but the
sensation is not better. What remains is the natural action. The
pores are not closed. Indeed, I will ask, if the pores along may not
be within the thickness of the body. They are not, pores being
open & shut a pore is not the pores of the skin. The pores
open which pores are not closed that it should not be closed
with respect to the skin. The pores are not the pores. The pores are not the pores.
and of an intense in the centre of my body pores for about
three inches & a half in the centre of my body pores for about

closed and the perspirable matter retained in the body
that would otherwise have passed through them, such
a particular kind of fever is raised in the blood as the
then existing constitution or the particular depravity of the
juices is most inclined to produce.

Dr Astruc, in his immortal poem on the
health has very truly said

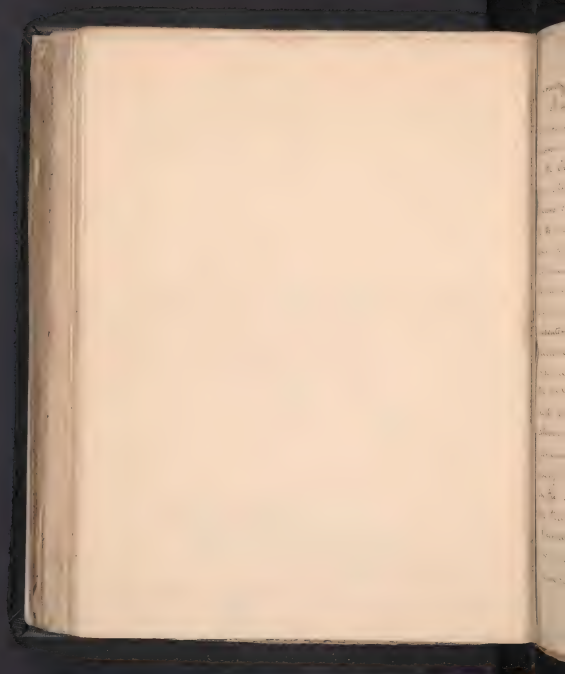
From this fatal source

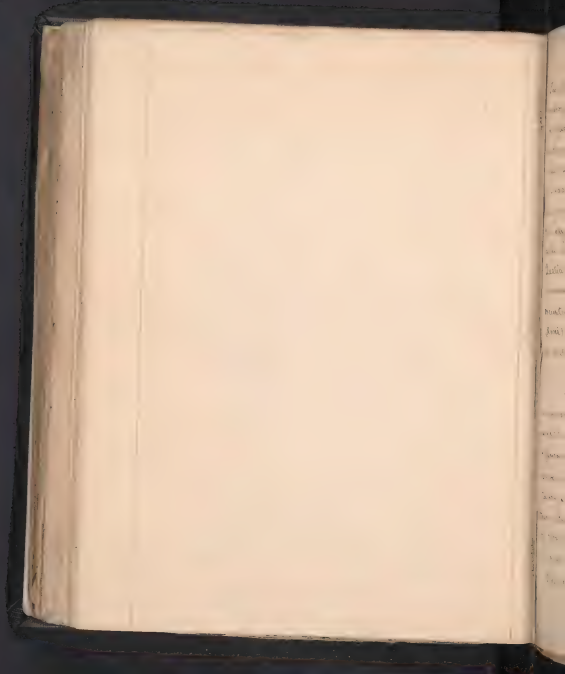
"What woes descend on man to be sung."

The epidemic nature of Quinsy and its kindred
the inflammatory diseases of the throat and particularly
of the pneumonic affections has been supposed to
consist in certain secret causes but of the nature of these
I am not sure that I think that the main, or greatest, of the
cause of such a disease is a sudden and violent change in the
temperature of the atmosphere or a change in the
season of the year or a change in the state of the
weather or other causes are not confined to a short
outburst even the

P Affection of the tonsils

is a very common disease that is not confined to the
throat and is not confined to the throat and is not
confined to the throat and is not confined to the throat





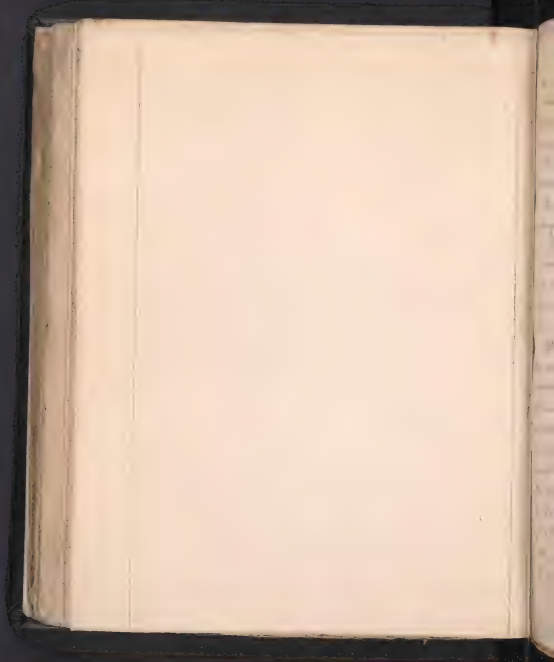
The diseases just mentioned are most essentially caused by an alteration in the function of the skin but they set on soon after when the belly is loose, for in this case the perspirable matter, if prevented from going out through the pores of the skin, is ass. off by the alimentary canal. So we may learn that a suppression of perspiration will affect the lungs, almost the liver or kidneys, according to the prevailing state of the body and to the nature of the constitution of the atmosphere. On this subject I shall again consult the Oracle of Medicine. *Qualia Tempora, Tales morbum Constitutiones* — *Atqui, prout morientur Tempus, similes aut dissimiles erunt Morbi qui in hoc oriuntur.* Lib. 1. de Humor. Sect. 7. *Conversiones Temporum (Anni) maxime portant Morbos, et in ipsis Temporibus Magnas Mutationis Trigonis putat aut Caloris; et sic de coeteris* —

Aphorism. 1. Sec. 3. Lib. de Humor. 2. —

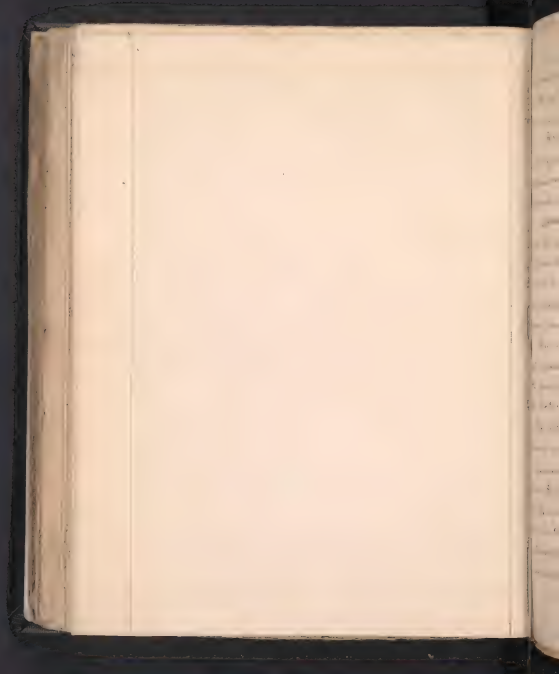
Circumstances do not require that I should enter into a consideration of all the different states of the manifest constitution of the atmosphere in Spring and to their influence on man in the production of disease. I have only noticed particularly the effects of a sudden change in the temperature of the atmosphere, because these changes form the most striking characteristics of Spring weather and are among the most fruitful sources of the diseases which I have mentioned.

I shall now go on to make a few observations concern.







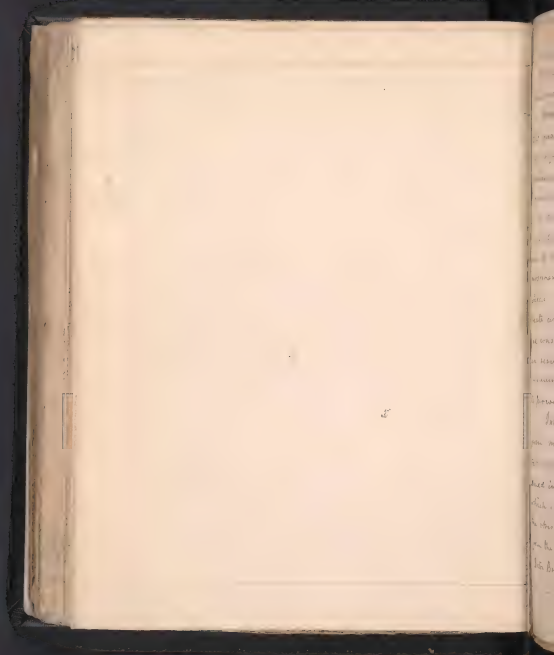


This coincides with the experience of Doctor Huxham who attributes the fact "to the warmth of the season rarifying the blood too greatly"

Rheumatism. Acute rheumatism appears very frequently in spring, especially when there are sudden and frequent fluctuations in the weather. This disease is often produced by the application of cold to the body, when it is unusually heated.

Cutaneous Eruptions and very many of the diseases which affect the skin principally, in warm climates, the eruptions which appear chiefly in the spring of the year I have thought that leprosy and herpetic eruptions, scabies, worms and other cutaneous affections usually increase in spring, or have their symptoms greatly aggravated.

There is a genus of itch which in some countries makes its appearance in the huts of the miserable in the spring of the year. This fact gives some probability to the opinion that this loathsome affection is produced from an effluvia generated in the winter returning warmth on the filth accumulated during winter. A pestilence of this kind is very frequently generated in the mud or animalculae produced by the excreta of man. Doctor Huxham expresses it as his opinion that the itch of spring is often generated by a subterfuge of perspiration. He also thinks that these are cutaneous eruptions of the kind which are common in the production of cutaneous eruptions.



Morbid secretions of the sebaceous glands, forming small black topped
tumors on the surface of the skin, are very common in this season.

Verbal Intermittents. In Spring Doctor Huxham informs us
that quotidian, semitertian and tertian fevers are frequently
very ripe and cotemporary with epidemic Pleuritis, Hoarseness,
rheumies and inflammatory Rheumatisms. From this we
would conclude that the same procatartie causes were concern-
ed in the production of all these diseases. The last mentioned
of which it is now generally allowed, are called into exist-
ence by sudden vicissitudes in the temperature of the at-
mosphere. So, it would seem probable, that the same cause
which would excite a Pleury in one, might in another
excite an inflammation of the lungs, or even different parts
and consequently manifesting different symptoms. All this
is a result from the different constitutions of men and the
prevailing state of the body at the time the morbid cause enters.

Intermittents are often produced by miasmata exhaled
from swamps and we have the greatest reason to believe
that most of those which prevail in autumn are pro-
duced in this way. There are also certain exhalations
which we have the reason to suspect at, but I incline to
be sensible that the disease most usually arises
from the action of the system of cold to the body.

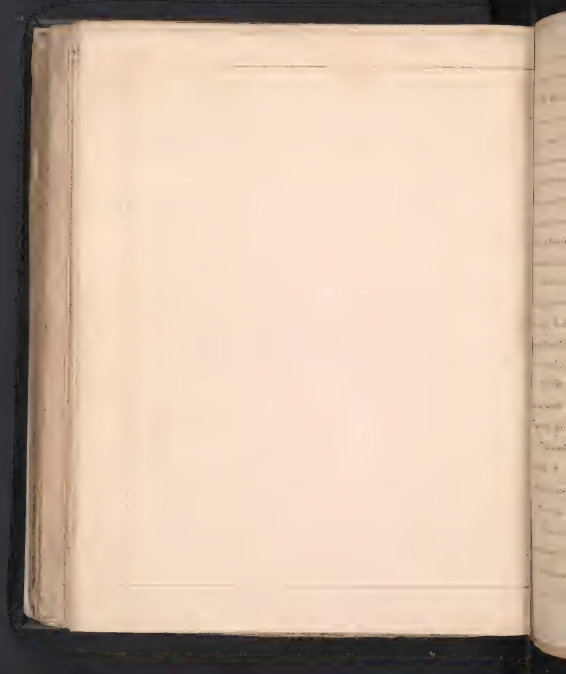
Enter Brown in a Remedy a Medicine says that most



of the venereal intermittents which prevail in certain parts of Scotland have their origin in sudden variations in the state of the weather. Here are my observations concluded concerning the origin and cause of certain diseases in Spring. I shall now finish the whole subject by enumerating some other sources from which Venereal Diseases may be derived.

1. Invisible Effluvia from the bowels of the earth. Did we credit the great power of antiquity we should attribute many diseases to emanations from this source. In modern conjecture on this point we have no reason to believe ourselves nearer the truth than the ancients. For as yet the origin of many epidemics is a profound secret. However if mortific effluvia could issue from the bowels of the earth to impregnate the atmosphere there is no season during which there would be a more copious issue of this matter than in Spring. For now the internal bowels of the earth are unlocked and many liquid gases which the frost of winter had confined, find their way out. That these gases may have noxious qualities is probable; for there are many subterranean substances, from which they might obtain a deleterious taint.

2. Clearing Lands. This is a very common operation of the farmer in the Spring of the year. Trees whose intervention has hitherto occluded the admittance of the sun's beams at all seasons, are now felled and the thick woods are filled and removed. The moist soil





we very soon see it is to the stomach the delicate
 scabulous. The fact, and so many diseases by any means
 which is noxious, it would seem that diseases from this source
 are not so common. (Celsus states that the water of the
 Nile is so impregnated by insalutary articles
 and Hippocrates remarks that "the share which the water we
 drink has in the affair of health is very great."

L. Emanations from certain Plants. Many vegetable physico-
 logists called plants the scavengers of the atmosphere, from their
 supposed power of absorbing the foul portions of the air and
 giving out other portions more conducive to health. But it seems
 equally evident that there are some belonging to the narcotic
 tribe endued with the power of throwing out into the
 atmosphere noxious effluvia. For the rose which is im-
 pregnated by a field of poppies produces an insensibility
 effects and the Bohemian Urtica of the island of Java is the same
 kind with such but in combination with the secretion
 of the plants for many miles around.

The very acquaintance with reptiles is not sufficient
 to prevent us entering into a partial belief of the
 power of these animals to destroy an atmosphere. The
 local custom of the atmosphere of the island of Java
 has a circumstance not known to the Saturna Stramonium
 or the red mandarin root. To allow the belief that this
 plant sometimes, by its narcotic effluvia injures health.



In the month of May 1816 as I was travelling through the Territory of Indiana it happened that I stopped for the night, in a small village. In a very comfortable and neat house where I lodged there were two children severely afflicted with the intermittent fever. In the morning I was disposed to enquire into the cause of this fever. No sudden change had occurred in the atmosphere previous to the commencement of their attack, nor could I discover any fresh cleared ground, any marsh, or any other source, from which inhalations capable of producing this disease usually arise. My attention was soon arrested by a small field almost covered with the luxuriant growth of the stink weed, a plant which in this country springs from the earth about the last of April or first of May and delights in a soil rich and abundant with filth. I immediately recollected an opinion of the late Doctor Barton* on this subject, which combined with every other circumstance induced me to believe that the disease in question was most probably caused by the influence of this weed (whose narcotic qualities are well known) on the atmosphere in which the patients lived. I have been strengthened in this opinion by several cases of a similar nature which have since come under my observation, and from recurring to the fact that the healthiness of a particular section of the country is frequently pointed out by the nature of the plants which grow there. Nor do I attribute all this to the plants, for their growth in certain places

* Vide Barton's Medical and Physical Journal, Vol. 1. p. 125.

depends on the composition of the soil, yet from this source also is their nature in a great measure derived.

5. Vernal Floods. Most of those rivers which have their source in mountainous regions and roll through an extensive country before they reach the ocean are subject to severe inundations. Their waters hold in heterogeneous mixture every species of filth, which the rapidity of the current loosened from the bottoms of their channels, from adjacent marshes on which was swept by tributary streams from neighbouring farms. This is deposited in the form of slime on the country which is overflowed. The sun exercises on this mixture of moist filth a power sufficient to generate the seeds of disease which are volatilised and ascend to enter into the constitution of the atmosphere.

Benjamin Tompkins

